Mechanical exudates show more often numbers of large endothelial cells, often in large plaques, the "placards" which Widal and Ravant consider pathognomonic of mechanical exudates or transudates.

Infectious pleurisies, etc., are found to have the polymorphonuclear leukocyte as the characteristic cell of their exudate.

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THE CLINICAL BEHAVIOR OF THE LYMPH GLANDS IN TYPHOID FEVER.

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So far as I can determine by examining the most important recent works on typhoid fever and by searching through any papers with suggestive titles, the statement that widespread enlargement of the lymph glands, recognizable clinically, occurs in typhoid fever has not been made. It is known that the lymphatic enlargement found at necropsy is not limited to the tissues in the intestine and to the glands in the direct path of the lymph stream from the intestine. Post-mortem findings of enlargement of the inguinal and the periœsophageal glands are sometimes noted; and lymphatic tissues that are even as distant from the intestines as are the tonsils occasionally show enlargement, and in some instances are probably directly involved in the typhoidal process. Indeed, typhoid fever plays its part so largely in lymphatic tissues that it is to be expected that it should, at times, produce widespread glandular enlargement, readily recognizable at post-mortem, particularly since the disease is well known to be a general bacterial infection and not a local process.

Clinically, however, in cases in which it is necessary to distinguish between typhoid fever and other diseases in which glandular enlargement is common, the discovery of many readily palpable glands is usually accepted as being a point in favor of the last-mentioned class of diseases and against typhoid fever.

In May, 1903, in the course of my services at the Episcopal Hospital and at St. Christopher's Hospital for Children, I encountered within two weeks 3 cases of rather peculiar nature, in which glandular enlargement was a point of some importance in the diagnosis. The first case was in a boy aged six years. In the course of typhoid fever, and while rötheln was prevalent, this child developed a rötheln-like rash and was found to have easily palpable glands in the occipital and the anterior and posterior cervical regions, as well as in the axilla and the groin; and subsequent observation showed that these glands exhibited a slight further increase in size and a distinct increase in number. The absence of any other new symptoms, the fact that the fever was dropping at the time and continued to decrease, the lack of any influence upon the patient's general condition, and the rapid disappearance of the eruption, without any trace of desquamation, led me to decide that this was merely an accidental rash.

In the second case, that of a boy, aged eighteen years, the presence of swollen and slightly ulcerated gums, with some excess of leukocytes, and with an absence of any distinctive evidence of typhoid fever, suggested the possibility of an early acute leukæmia. This patient showed a small number of readily palpable anterior and posterior cervical, axillary, and inguinal glands; and within a few days the palpable glands were found to be increasing in number, though not distinctly increasing in size. He soon developed spots and a Widal reaction, however; the leukocytosis disappeared, and he rapidly settled into a course of typical typhoid fever, no complication, except the mild grade of stomatitis, being discovered.

The nature of the third case still remains somewhat obscure, although I believe it was typhoid fever. In considering the possibility of syphilitic fever in this case, I found easily palpable anterior and posterior cervical, axillary, epitrochlear, and inguinal glands. The man denied the possibility of syphilis, however, and showed no primary lesion, and he had no subsequent manifestations of that disease. While he had no absolutely characteristic evidences of typhoid fever, that diagnosis remains the most probable.

These observations led me to make notes at various periods of the disease in a series of cases of typhoid fever. As a result, I think I may state without hesitation that in a considerable number of cases widespread glandular enlargement that is, to be sure, slight, but sufficiently marked to be discoverable clinically, occurs in this disease; and in some instances the glandular enlargement is as marked as that which usually occurs in certain other infectious diseases, and is usually looked upon as somewhat distinctive of those diseases.

The regions that I especially observed were the groin, the axilla, and the anterior and posterior portions of the neck. In some cases the condition of the epitrochlear and the brachial glands was also noted. In most cases the enlargement observed was very slight; it was sometimes so slight that I doubted whether it could be considered to be actual enlargement. The most common condition was the appearance of many glands about the size of buckshot or a little larger; these were, as a rule, especially easy to palpate in the axilla and the groin. Little attention was paid to such a condition of itself, as I appreciated the fact that glands of this size might readily have been present from the beginning and have become apparent only because of emaciation. Very frequently, however, I noted, during the course of the disease, the development in the axilla and the groin of glands that I have described in the notes as varying in size from that of small peas to that of hazelnuts, while in the neck they were often noted as being of the dimensions of small peas. In some of these instances such glands were present in small numbers on admission, but I noted a distinct increase in their number during the course of the disease. As a rule, the occurrence of glandular enlargement could be determined only by painstaking and deliberate examination; occasionally, however, it was sufficiently marked, especially in the axilla and in the neck, to be apparent upon rather hasty palpation. In the groin the conditions were not quite so patent, because most of these patients, as is so very common, showed here some old enlarged glands in the beginning; hence a little more care was necessary in this region, in order to determine whether these glands were enlarging and whether new ones were appearing.

I am, for several reasons, disposed to be very guarded in using my figures as to the frequency with which enlargement can be noted. In the first place, the number of cases that I have observed is too small to be distinctive. In the second place, the circumstances attending the observation of such cases are likely to lead one astray; that is, typhoid fever patients usually emaciate rapidly during the course of the disease, and then rapidly put on flesh after convalescence has begun. In consequence of this, glands already palpable would become more distinctly so; and others, not at first palpable, would appear as the result of the emaciation; while, when fat is being reacquired, the conditions are reversed. This tends to give one the impression that the glands are showing slight enlargement during the course of the disease, and that this enlargement is disappearing during convalescence. Furthermore, anyone that makes a practice of searching for small lymph glands will agree with me that in the most varied conditions a few may often be found high up in the axilla, while they are somewhat less easily and less frequently discovered in the anterior and posterior cervical regions, though common here. Naturally, also, the more frequently the search is repeated, the more often will glands be discovered and the greater will be the number found; hence, repeated search at various periods of the disease might give one the impression that the glands are increasing somewhat in number, when this is not the case. I have been careful to exclude, as far as possible, these sources of error, and have weeded out from the positive group the cases in which I thought that the notes of increase in the size or the number of the glands might have been due to mistakes in observation; but even after having done this, I am inclined to think that my figures show a greater frequency of the condition than is quite correct.

The total number of cases that I observed was about 60. Some of them, however, were seen only late in the course of the disease; and another group exhibited complications like furunculosis. The conditions in the former were not distinctive, and in the latter any glandular enlargement might readily have been due to the secondary infection. I have, therefore, excluded all these cases. This brings the total number down to 43. Of these, 7 at the time my service ended were still in such an early stage of the disease that the behavior of the glands during the course of the disease could not be determined properly, so that the cases in which satisfactory notes have been obtained number only 36.

In these 36 cases I observed the occurrence of glandular enlargement during the course of the disease in 25 instances; in 4 the conditions were doubtful, and in 7 there were no determinable changes in the glands.

At the time of admission, 12 of these 25 had enlargement of the peripheral glands other than the inguinal; they likewise had inguinal enlargement, but, of itself, this is, of course, of little interest. Twelve showed no enlargement of other glands than the inguinal, and in 5 of these cases no inguinal enlargement could be observed. Three of the last-mentioned 5 cases occurred in young boys. In the 1 case remaining of the 25 I have no notes made upon admission.

Notes during the course of the fever show that in 22 of the 25 cases there developed distinct enlargement of the axillary and the cervical glands; in 1 other case glandular enlargement, noted upon admission, distinctly decreased before the fever ended, while in the 2 remaining cases the condition of the glands was doubtful during the course of the fever. Although these 2 cases last mentioned were doubtful at this period, they are included among the positive cases because, in early convalescence, it was determined that there had been a decided increase in the size and number of the glands.

Upon discharge, 16 showed a distinct decrease in the glandular enlargement; in 6 it persisted about as it had been when last noted; in 2 there was, as mentioned, a distinct increase in the size of the glands, and in 1 the axillary glands were noted to be decreased and the cervical increased.

Of the 7 cases mentioned in which the notes covered too brief a period to allow of their inclusion in the above figures, 1 showed distinct decrease in the glandular enlargement within a week after admission (he had been ill twenty days when admitted), in 2 there seemed to be a distinct increase in the size of the cervical glands, and in 4 the notes were absolutely indistinctive.

While I have stated that I am not convinced that enlargement occurred in all the cases in which my notes indicate that it did, I have no question concerning most of the cases that I have included as positive, and there were certain cases in which the changes in the glands were so readily determinable that there could be no possible source of error in the observations. There were, for instance, three boys, aged between twelve and fourteen years, that upon admission showed, after the most careful search, no enlargement of any glands, except for a very few, about the size of buckshot, in the inguinal region. During the course of the disease these patients all developed many palpable glands, a few of the largest becoming the size of small hazelnuts, many reaching the dimensions of moderate-sized peas, and numbers of buckshot-sized ones becoming palpable. In two of these boys the glandular enlargement decreased decidedly during defervescence, even before the patient was being fed more freely, and hence before any flesh was being put on; and in both these patients the enlargement had practically disappeared before their discharge from the hospital. In the third case the enlargement, although it decreased somewhat, persisted until the time of discharge.

There were also several cases of relapse in which changes in the glands could easily be followed. In one of these it was noted that upon admission the inguinals only were enlarged. Within a week the cervical, axillary, and epitrochlear glands had become easily palpable. Two weeks afterward, when the patient's fever had disappeared, the glands were found to have decreased markedly in size and number. Ten days later, after he had been for a week in a relapse, the enlarged glands were found to be much more numerous than they had been in the primary attack; and the number of these glands continued to increase up to the time of his discharge, which was somewhat premature. (Two weeks later, just after I left the service, this man was admitted in a second relapse.)

In another case there were no notes upon admission; but during the course of the disease the inguinal, axillary, and cervical glands were felt in moderate numbers and were the size of peas. At the end of an afebrile period of a week the axillary and the cervical glands had decreased greatly in size; the inguinals remained unchanged. Toward the end of a relapse of two weeks' duration the axillary and the cervical glands were found to be again as large as peas or larger, and to be much more numerous than they had been before. These glands had decreased to the size of buckshot before the patient's diet was increased, and remained in this condition at the time of his discharge.

In a third relapse-case only slight glandular enlargement, if any, could be determined to have occurred during the primary attack, while during the relapse there was distinct and general enlargement.

Notes were not made with sufficient frequency during the course of these cases to determine definitely when the enlargement occurred. In some instances it seems to have appeared early in the disease, for a number of patients were admitted at the end of the first week with a large number of palpable glands, and this enlargement disappeared late in the course of the disease or during convalescence, indicating that it had been due to the attack of typhoid fever. In most instances, however, the enlargement appeared to develop—most strikingly, at least—in the latter part of the disease; and in a number of cases increased enlargement or the first definite enlargement was noted during early convalescence. As already indicated, it had, in the majority of cases, disappeared to a greater or less extent before the discharge of the patient, but in about one-quarter of them it persisted unchanged up to the time of discharge.

I at first thought that by carefully observing the glands it might be possible to learn some facts that would be of value in diagnosis. It seemed possible, for instance, that this might afford some help in distinguishing between typhoid fever and obscure cases of tropical malaria. There were a number of such cases in the wards during this period, and in 2 of these repeated searches for the plasmodium, even when instituted by a person so skilled as is Dr. Ghriskey, failed to show the parasites; although they were ultimately discovered. The glands in these patients were observed persistently, but showed no enlargement.

It likewise seemed possible that in acute tuberculosis glandular enlargement would occur less commonly and less rapidly and would not be widespread. Two cases of acute pneumonic tuberculosis were observed during this period in the ward; they showed no general glandular enlargement. Perhaps in disseminated tuberculosis and some other conditions the enlargement of the glands might be of interest in the diagnosis. On the whole, however, I believe that it is of little consequence in this way, for the enlargement in typhoid fever tends to occur late, and frequently so late as to be, for this reason if for no other, of no diagnostic importance; and it is also often so slight that it can scarcely be of much help. Furthermore, I do not believe that slight enlargement of the lymph glands, such as I have described as occurring in typhoid fever, can be of great importance in distinguishing this condition from other infectious diseases, for I am convinced that glandular enlargement occurs much more frequently in many infectious diseases than the common descriptions of these diseases would lead one to believe. This has recently been clearly shown by Schamberg to be true of scarlet fever and also of measles; and there is certainly a growing recognition of the fact that glandular enlargement is common in many of the other bacterial infections.

The possible bearing of the glandular enlargement upon prognosis has interested me somewhat, because, as I have already stated, the enlargement was in most cases observed rather late in the disease, a fact suggesting that it might have something to do with the production of immunity, instead of being merely an expression of general infection of the lymphatic apparatus with typhoid. The 43 cases that I have referred to all recovered, so that I can make no direct statement as to its possible bearing upon prognosis. During the time that these observations were being made there were three deaths from typhoid fever in the wards; but all these patients died of severe complications that had no direct connection with the severity of the typhoid toxæmia, and all these cases have been excluded from the list—two because they had furunculosis, and the other because I had no notes until toward the end of the patient's life. It is possible that more careful and more extended observation will show that the degree of the glandular enlargement may be made to influence the prognosis. This is, at any rate, suggested by the fact that the enlargement occurs most markedly as convalescence is approaching, as well as by the fact that the most marked enlargement of the glands was observed in several of the mildest cases. Furthermore, the behavior of the glands in several cases of relapse suggests this possibility. As stated, a limited glandular enlargement was observed in a number of cases during the primary attack; while during the relapses, which were followed by definite recovery, a much more marked enlargement occurred. The last-mentioned fact, however, indicates that glandular enlargement, unless quite marked and general, cannot have any important bearing upon prognosis, for readily discoverable enlargement may be followed by relapse.

I thought that the development of decided glandular enlargement, together with the usual signs of approaching convalescence, might afford some indication that the disease is actually about to terminate, and might be helpful in recognizing early the not uncommon cases in which the afebrile state is but slowly established or the disease is much prolonged. It cannot, however, prove of great importance in this way, as is indicated by the conditions just mentioned in connection with relapse; a recognizable and fairly considerable glandular enlargement may certainly occur, and yet be followed by a distinct relapse.

These observations concerning prognosis were suggested by the extensive discussion in recent years concerning the tissues active in the production of immunity. The behavior of the glands in the cases that I report has a certain degree of interest in this connection, although, of course, a limited one. The fact that the glandular enlargement occurred so generally in cases that ended in recovery and that it developed late in the disease, as convalescence was being established, seems to suggest that the lymphatic tissues were active in these cases in establishing immunity, and thus to add some support to the view that the lymphatic tissues play an especially active part in this function.

The chief interest in these observations, however, lies in their relation to diagnosis. Glandular enlargement, unless very marked, cannot be considered a strong point against typhoid fever, for enlargement of the degree that is, for example, usually seen in syphilis is not very uncommon in typhoid fever, and a somewhat lesser degree is very common.

RENAL DISEASE OF PREGNANCY AND RETINITIS ALBUMINURICA.

WITH REPORT OF A CASE.

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Many systemic manifestations of pregnancy are situated on the border line between the physiological and the pathological. Vomiting, œdema, hypertrophy of the heart, nervous disturbances, etc., are all illustrations of a fluctuating equilibrium. Still more important are the renal changes accompanying the condition, and these have, in the course of time, given rise to abundant discussion and discord; naturally enough, for no fixed line of demarcation can be traced between the normal and the pathological. Neither should this nonplus us, if we only recollect the gradual character of all fundamental transition, as between life and death, animal and vegetable, and many another.

It is granted by all that certain changes are found in the kidneys of the pregnant woman; but divergence of opinion begins the moment we ask, Are these changes organic and abiding, or merely functional and transitory? The practical bearing of the answer needs no emphasis, and yet a definite answer is not forthcoming.

Equally deplorable is the obscurity prevailing in respect to that most important result of renal disturbance—albuminuric retinitis—occurring in pregnancy.

The writer does not presume to deal exhaustively with these formidable problems. He wishes merely to report an interesting case and to indulge in a few warrantable inferences.

Mrs. Dora M., aged thirty-three years, a large, strong, and well-built woman; has been married thirteen years. The first conception took place soon after marriage. In the third month of this first pregnancy she sought the aid of a midwife, who performed criminal abortion. Since that time the patient suffered from a chronic inflammatory gynecological affection, for which she underwent repeated courses of treatment at home and abroad. Conception did not occur again for eight years, in spite of varied therapeutic measures directed to that end.

Four years ago she again went abroad, and her husband seized the opportunity for acquiring syphilis. He presented himself with